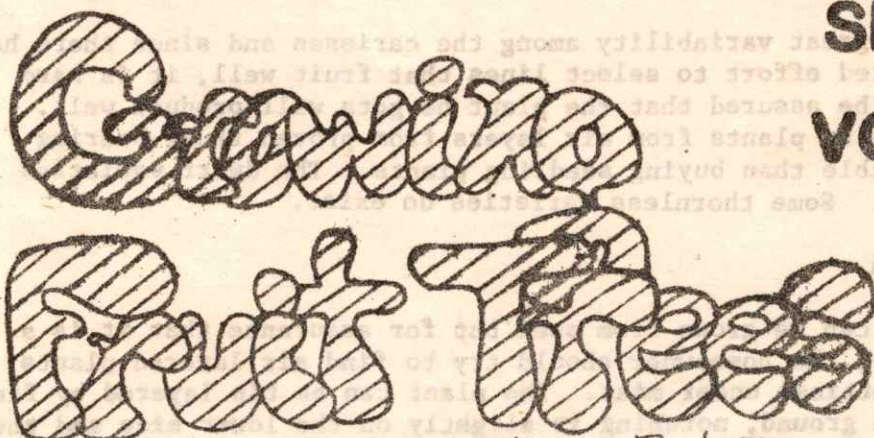




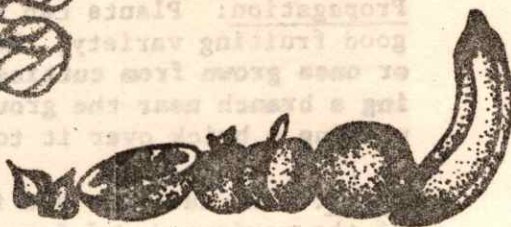
EXTENSION INFORMATION - HORTICULTURE

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in the Florida Keys - Part I



In our last newsletter (Extension Information - Horticulture, Vol. 6, No. 1, Jan.-Feb. 1982) we began a discussion of fruit trees the gardener could grow in the Keys. There were many that we did not have space to mention, so we thought a follow-up would be helpful.

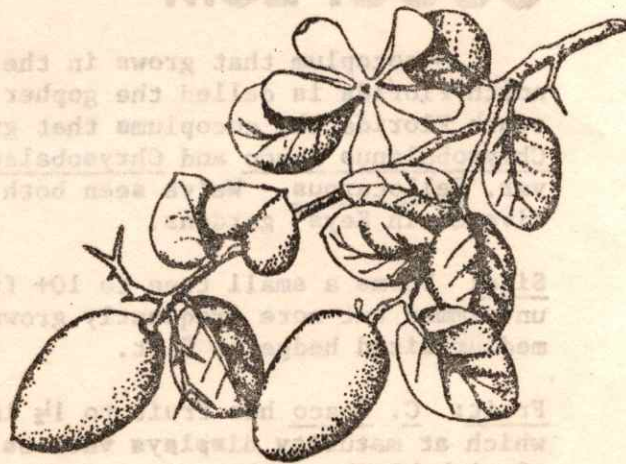
(No fact sheet)

CARISSA

The carissa or natal plum is commonly of two species in the Keys: Carissa grandiflora and Carissa carandas.

Size: We have seen the plant grown as a small tree to 10+ ft. but best fruiting is probably achieved if the plant is grown as a medium sized hedge with twice a year pruning. Fruit forms on new wood and sensible pruning should increase fruiting.

Fruit: In Carissa grandiflora the fruit is red when ripe and many seeded. C. carandas has black or deep purple fruit.



The fruit reaches to nearly an inch in diameter in some of the better selections. Our office has recipes which tell how to use this fruit in jellies and preserves as well as pies. The fruit can also be eaten out of hand fresh when fully ripe.

Salt and Fill Tolerance: This is an excellent fruiting plant for most conditions in the Keys. It tolerates salt and poor soils well and will grow on fill sites. For best growth, however, the plants should be planted slightly higher than the surrounding ground (3-6 inches) and they should be mulched with an acid producing material such as shredded bark or leaf litter.

Varieties: There is great variability among the carissas and since there has not been a concentrated effort to select lines that fruit well, it is hard for the homeowner to be assured that the plant he gets will produce well. For this reason, growing plants from air layers from proven fruit-bearing plants is more desirable than buying seedling plants. The dwarf varieties usually do not fruit. Some thornless varieties do exist.

Pollination: Unknown

Propagation: Plants can be grown from seed but for assurance that it is a good fruiting variety, the homeowner should try to find air layered plants or ones grown from cuttings under mist. The plant can be tip layered by finding a branch near the ground, notching it slightly on the lower side and then placing a brick over it to hold the branch down in contact with the soil.

Pests: The carissas are fairly pest free in our area, with the exception of the various dwarf forms. These tend to develop serious root rot problems in the Keys and are not recommended unless planted in a 12 to 18 inch raised bed.

Other Information: The carissas have fragrant white flowers that make them attractive plants for the landscape. They can be quite thorny, however, so you will need to be somewhat cautious where you plant them.

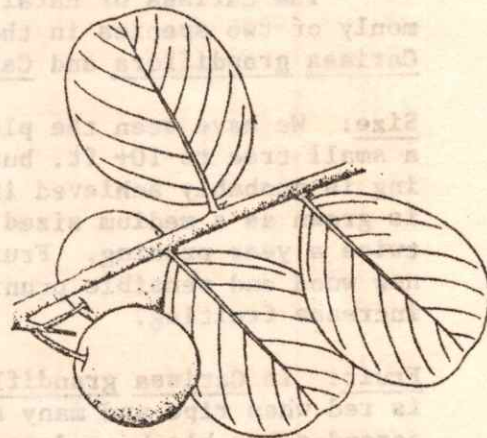
COCOPLUM

(No fact sheet)

A cocoplum that grows in the sandhills of north Florida is called the gopher apple. In south Florida the cocoplums that grow wild are Chrysobalanus icaco and Chrysobalanus icaco var. Pellocarpus. We've seen both being cultivated in Keys' gardens.

Size: Forms a small tree to 10+ ft. if left untrimmed but more frequently grown as a medium sized hedge to 5 ft.

Fruit: C. icaco has fruit to 1½ inches long which at maturity displays various shades of pink blush on the skin. C. icaco var. Pellocarpus has one inch long fruit with a purple skin and white flesh. The fruits are used in jellies but they can also be eaten fresh.



Salt and Fill Tolerance: This is another excellent fruiting plant for most conditions in the Keys. It tolerates salt and poor soil well and will grow on fill sites. The quality of cocoplums can be improved if you plant them slightly higher than the surrounding ground and mulch them, but the cocoplum has been observed doing well in the Keys on some very poor sites. It is not used enough here.

Varieties: There is again great variability in fruiting if plants are grown from seed, so propagation of this plant would best be accomplished by air layering. Growing the plant as a hedge would probably encourage greater fruit production.

Pollination: Unknown

Propagation: Grows slowly from seed. Propagation best by air layering.

Pests: No major pests known in the Keys.

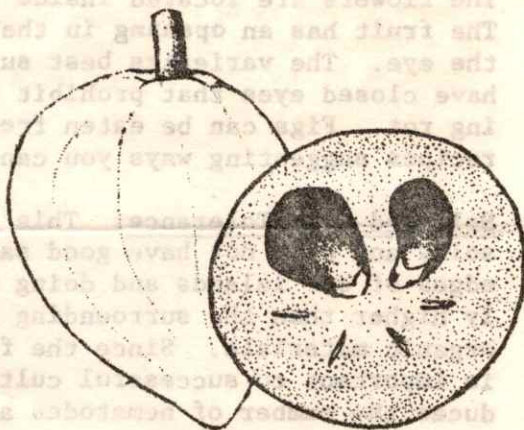
CANISTEL

(Fact Sheet No. FC-61)

The canistel (*Pouteria campechiana*) is sometimes called the eggfruit or ties.

Size: Grows to 20+ ft. in the Keys.

Fruit: When fully ripe its thin skin is bright yellow. The pulp is orange yellow (the color of egg yolks) and is dry and mealy in texture. It has 1 to 3 shiny seeds that are 3/4 to 1 inch long. The fruit can be eaten fresh and the flavor enhanced with lime juice or butter. It can be used in pies, milk shakes and ice cream. Our office has recipes on ways to use this fruit. Fruit is usually ripened off the tree, and is picked when the skin just starts to turn from green to yellow, but is full-sized. It is then ripened in a cool place out of the sun. If left on the tree, it cracks and is invaded by many fruit-eating insects. November to March is the maturation time for fruit in our area. Some trees seem to bear for longer periods.



Salt and Fill Tolerance: Although this tree tolerates high pH soils such as ours, it does not have good salt tolerance nor does it do well in compacted fills. It is best planted in center island situations, therefore, except where the elevation is high and wind screening can be provided.

Varieties: Most are seedling trees and few selections have been named. No named selections exist locally.

Pollination: Self-pollinating.

Propagation: These are usually propagated by seed (3-6 weeks germination time). The seed should be washed and planted immediately in a good potting mix for best germination. Cuttings can be made under a mist system, but rooting is slow. Good selections can be grafted on canistel seedlings by veneer grafting of terminal scions.

Pests: We have observed no major pests on this tree in the Keys when it is grown in the proper soil conditions. The tree does benefit from minor element sprays two to three times a year.

(Fact Sheet No. FC-27)

FIG

There is a large group of plants called the "figs," but the one producing the commonly recognized "edible fig" is Ficus carica.

Size: In the Keys we have seen trees to 8 ft. However, the tree will reach to 20+ ft. in other areas of Florida.



Fruit: The fruit of the fig is extremely unusual in the plant kingdom. The fruit starts out as a stem that turns hollow as it swells. The flowers are located inside the fruit. The fruit has an opening in the end called the eye. The varieties best suited to our area have closed eyes that prohibit rain and insects from entering the fruit and causing rot. Figs can be eaten fresh or used in many other ways. Our office has recipes suggesting ways you can use them in meals.

Salt and Fill Tolerance: This tree is only marginally tolerant of fill-type soils and does not have good salt tolerance. We do find it planted toward the edges of our islands and doing well there if the homeowner has mounded it slightly higher than the surrounding ground and mulched it two to three inches with organic materials. Since the fig has most of its roots near the surface, mulch is important to successful culture because it protects these roots and also reduces the number of nematodes around the tree. Figs are susceptible to decline from nematode attack.

Varieties: In order for the California type figs (the Caprifigs and Smyrna figs) to fruit you must have varieties from each type present plus a small wasp for pollination. Another type, the San Pedro, also needs a pollinator. The varieties grown in Florida are called common types and need no pollinator. For nematode resistance it is advisable to grow figs grafted on nematode-resistant rootstocks such as Ficus racemosa (also known as F. glomerata), F. cocculifolia, and F. gnaphalacarpa. The common varieties recommended for Florida (with synonyms in parentheses) include 'Celeste' (Celestial, Blue Celeste, Little Brown Sugar), 'Brown Turkey' (Everbearing, Harrison, Ramsey, Lee's Perpetual, Eastern Brown Turkey, Brunswick), 'Green Ischia' (Ischia Green, White Ischia, Ischia Verde), 'San Piero' (Thomson, California Brown Turkey), and 'Magnolia' (Brunswick, Madonna).

Pollination: None needed on the common varieties listed above. The small wasp is needed to pollinate the other types and does not occur in Florida.

Propagation: As indicated, grafted trees are best for South Florida. Figs can be grown from air layers, however. In addition, taking 6 to 12 inch lengths of wood two to three weeks after the tree goes dormant (i.e. loses most of its leaves) and planting these in a well drained potting mix will usually give you a high percentage of rooted cuttings in a short time. Such cuttings should be grown for at least 6 months in a pot before they are planted in the landscape.

Pests: Nematodes are a serious problem with figs in our area. There is also a disease called fig rust that causes early defoliation of these trees. We have not observed this as being so severe as to kill the tree, although in severe cases fruit production is reduced. Controls for homeowners are difficult.

Other Information: Most other figs have an invasive root system. Because the edible figs are small in stature, their root systems will not destroy house foundations or seawalls. They do, however, put off an abundance of roots that can clog septic tanks so do not plant them close to shallow tanks. All figs have a milky sap in their fruit and branches. Some people develop a rash when they contact this sap.

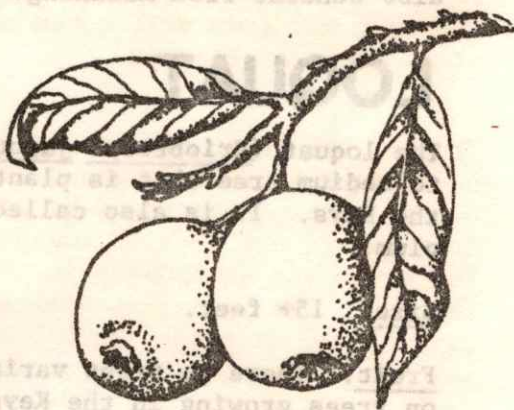
GUAVA

(Fact Sheet FC-4)

The guava (*Psidium guajava*) is a fruit known by nutritionists as being an excellent natural source for Vitamin C. Some varieties are five times as rich in this vitamin as fresh orange juice.

Size: To 15+ feet.

Fruit: Round to oval shaped with weights up to one pound in some varieties. The skin is usually yellow when ripe, but the pulp beneath can be white, yellow, pink, or red. The fruit can be thick or thin skinned with many to few seeds. It is usually highly aromatic. Most fruit production occurs in the summer months, although some can bear the year round. Fruit can be eaten fresh or used in jellies and preserves. Our office has recipes on how to use this tropical fruit.



Salt and Fill Tolerance: Although this tree does not have salt tolerance, we do see it doing well on fill soils where the homeowner has planted it higher than the surrounding ground and mulched it with organic material. It benefits from nutritional sprays once or twice a year in the Keys. The tree is deciduous, losing its leaves once a year.

Varieties: Because there is not a great demand for them, the named varieties of guavas are hard to locate at nurseries in south Florida. According to the University of Florida some of the better fruiting types include the 'Supreme' (white-fleshed), 'Ruby' (red-fleshed), 'Blitch' and 'Patillo' (pink-fleshed), 'Miami White', 'Miami Red' and 'Red Indian'.

Pollination: Although the flower of the guava will self-pollinate, your tree will have greater fruit production if pollinating insects such as bees are present to assist.

Propagation: Air layering is practical with guavas and will give a plant just like the tree they are taken from. Guavas can also be grown from seed, but there is a great variability in fruit quality if there are several guava trees in your neighborhood that might be providing pollen to your tree through insect activity.

Pests: The most serious pest on guava in the Keys is the Caribbean fruit fly. This is an insect that lays its eggs within the fruit. The egg hatches to a

maggot that tunnels throughout the fruit making it unappealing to most people. It can also cause early fruit drop. Except for bagging the fruit while it is still young, there are no control measures available to the homeowner for controlling this pest. For this reason, you'll have good and bad years for fruit production here in the Keys.

Other Information: There are perhaps 150 species of guavas in the tropics. Two that produce smaller sized fruit and seem to tolerate saltier conditions than the guava described above are the red cattley guava (*P. cattleianum*) and the yellow cattley guava (*P. cattleianum* var. *lucidum*). Both have fruit that are one inch in size or smaller. The red one has a strawberry-like flavor while the yellow one is slightly sweeter. When grown in the Keys, we usually find that these varieties are best grown as a bush-type plant. They also benefit from mulching.

LOQUAT

The loquat (*Eriobotrya japonica*) is a small to medium tree that is planted throughout the Keys. It is also called the Japanese plum.

Size: 15+ feet.

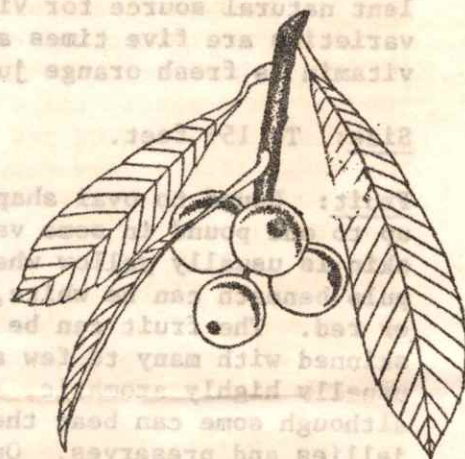
Fruit: There is great variability of fruit on trees growing in the Keys. This is probably due to the fact that most of the loquats here were started from seed. The fruit is plum-like in shape, 1 to 2 inches long, and yellow to orange in color when ripe. The flavor is tart to sweet. Our office has recipes for using this fruit. The tree will bear heavy crops if there is adequate moisture during the time the fruit is setting (November to February). If rainfall is light and irrigation is not provided, fruit set will be light, but still acceptable for most people.

Salt and Fill Tolerance: This tree is not particularly salt tolerant. It is even less tolerant of compacted soils or low areas which receive large amounts of runoff during rainy periods. To grow this tree, you should plant it higher than the surrounding ground, screen it from salt-laden winds, and mulch it heavily with organic materials that will rot and also conserve moisture during the winter dry season.

Varieties: The University of Florida recommends trying 'Advance,' 'Champagne,' 'Gold Nugget,' 'Oliver,' 'Premier,' 'Tanaka,' or 'Wolfe.' Since demand for named varieties in our area is low, it may be difficult to locate a nursery handling these varieties.

Pollination: Trees are probably capable of self-pollination although better fruit set will occur if bees are working the blossoms.

Propagation: Because of the wide variability among seedling trees, it is desirable to plant grafted varieties of the loquat. Shield budding and side veneer grafts have been shown to be the most successful methods of propagation.



(Fact Sheet No. FC-5)

Pests: We have seen several loquats die from what appears to be the disease Fireblight. This is a bacterial disease that is thought to be carried primarily by bees. It is particularly serious on pear and apple trees in north and central Florida. In the Keys, its occurrence is probably rare, so we do not feel this disease would make growing the loquat a risky undertaking.

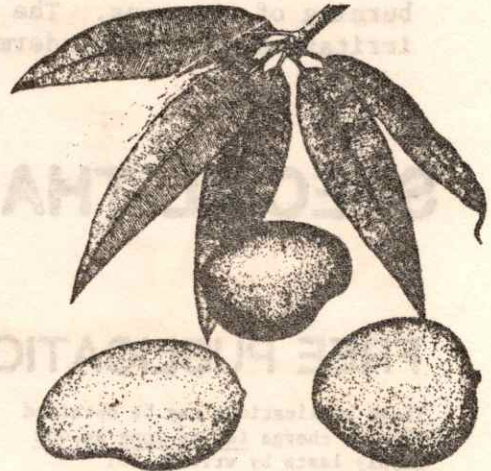
MANGO

(Fact Sheet No. FC-2)

Next to the avocado, coconut palm, banana, and Key lime, the most commonly grown fruit tree in the Keys is the mango (Mangifera indica).

Size: to 30+ feet

Fruit: Because of the wide area of the tropics that this plant can grow, many varieties have been developed over the years. As a result the fruit can be from greenish to yellow or red when ripe and may weigh from a few ounces to more than five pounds. The fruit encloses one large seed and is eaten fresh or used in ice creams, jellies and preserves. The fruit will ripen on the tree but commercially it is picked when fully grown but still green. The crop is considered mature when a few of the fruit begin to color from green to yellow. During good years fruit production is heavy. Depending on the variety, fruits can ripen beginning in May all the way into September.



Salt and Fill Tolerance: As with the avocado, discussed in the last newsletter, this is not a tree well suited to low fill sites or to areas where there is exposure to salt-laden winds. When the roots of this tree are dying from aeration problems or where wind exposure is high, its leaves brown on the edges and fall. If you cannot grow avocados in a particular neighborhood, due to soil conditions or exposure, you will also be unable to grow the mango. Planting the tree higher than the surrounding ground is helpful and the tree will benefit from mulches that will rot down, producing slightly acid conditions around its roots.

Varieties: Mango varieties are chosen for the time of the year you want the fruit to mature and the size of the fruit you want to produce. Rather than discuss the many varieties here, we refer you to Fact Sheet No. FC-2.

Pollination: Mangos are insect pollinated with both staminate (i.e. male) and perfect flowers (male and female) being present on the same tree. Insects such as flies are extremely helpful in fruit production. Although honeybees will pollinate mangos, they are not essential to pollination as in some other fruits.

Propagation: All mangos if grown from seed will eventually produce a fruiting tree. Unless the tree you take the seed from is isolated, however, it is not likely the fruit produced will be exactly like the parent. The exception is with fruit called polyembryonic (i.e. the seed beneath the seed coat is in several parts). Such seed will sprout with several shoots and the strongest can be allowed to grow while the weaker ones are cut out or separated once each has formed roots. These will be like the parent. Most mangos that you buy have been grafted so that the quality of the fruit can

be known long before the tree is old enough to flower. The best rootstock for our area is the 'Turpentine.'

Pests: Mangos are attacked by scale, whiteflies, caterpillars, beetles, boring insects, and several diseases. These are covered in Fact Sheet No. FC-2.

Other Information: The mango is in the same family as poison ivy. The sap from this plant contains various resin-like substances which cause dermatitis in sensitive people. Smoke from a fire using mango leaves or wood can cause burning of the eyes. The flowers also emit an odor which causes respiratory irritation and facial dermatitis in some individuals.

SPECIAL THANKS

to Dr. Carl Campbell, Tropical Fruit Extension Specialist, AREC, Homestead for his assistance in reviewing this newsletter.

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